REMARKS

Claims 1 and 8 are currently amended to include the limitations taught in the Specification on page 8, lines 10-18.

Claims 1-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Villarreal-Trevino et al., U.S. Patent 6,395,056 in view of Zeller et al. U.S. Patent 6,336,954.

With respect to claims 1 and 2, the Examiner states Villarreal-Trevino discloses the invention applied to lumps of iron ore. Examiner is now in accord that Villarreal-Trevino does not teach Applicants' temperature range for preheating of 200° C to about 500° C. Examiner asserts that Zeller teaches Applicants' temperature range (200° C to about 500° C) and discloses a process for direct reduction of iron oxide containing material by preheating ores in a temperature range of below 350° C and preferably above 250° C. Examiner admits that the process disclosed by Zeller is for a fluidized bed, and not for a shaft furnace as in the instant claim 1 and Villarreal-Trevino. Examiner's position is that that the direct reduction of iron ore in both Villarreal-Trevino and Zeller disclose solutions for the same problem: avoiding magnetite during preheating of iron ore.

Applicants have amended claim 1, further distinguishing the instant invention from Villarreal-Trevino and Zeller. Zeller teaches that three preheating processes are equivalent. They are "adjusting, in the first fluidized bed zone, a temperature of the iron oxide-containing material to (1) be either below 400° C, (2) or above 580° C, or (3) a temperature ranging from 400° C to 580° C." As the Examiner can by inspection observe, Zeller has taught all temperatures, as all temperature are covered by theses ranges (< 400° C, 400° C - 580° C, >580° C). As all temperatures

are taught, no particular temperature range is required, as all temperatures fall within this range. The Examiner can't reasonably argue that Zeller teaches a temperature range when he teaches all temperatures. Furthermore, while Zeller teaches that three processes reduce formation of magnetite, there is no mention that magnetite produces fewer fines, just that magnetite is more dense (col. 2, lines 46-47), and therefore diffusion will be slower. Zeller teaches that the fluidized bed "can utilize directly nozzling in water and / or water vapor" (col. 7, line 20). Applicants claim a process that dries the iron ore lump feed material, and Zeller's process doesn't appear to teach drying. Villarreal-Trevino teaches (col. 4, lines 37-39) that when the preheated material is transferred through a conduit it is contacted with reducing gas 40. Applicants teach, and now claim, that the lump feed material contacts either an inert atmosphere or an oxidizing atmosphere, but not a reducing atmosphere as taught by Villarreal-Trevino. Both Applicants and Villarreal-Trevino teach the use of bins to effect the predrying, whereas Zeller teaches a fluidized bed. The use of bins to process the lump feed material effects a known temperature range for a known time, while a fluidized bed process creates a temperature ramp as the material moves through the furnace, and in the former there is better temperature control. Possibly, the use of a bed process led Zeller to teach a temperature range of all temperatures. As previously discussed, Villarreal-Trevino teaches a temperature range of 750° C to 1100° C, which is well outside of Applicants' predrying temperature range, and in the range where fines are produced.

Claims 3 and 4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Villarreal-Trevino et al., U.S. Patent 6,395,056 in view of Zeller et al. U.S. Patent 6,336,954. Villarreal-Trevino does not teach the explicit temperature range, but the Examiner states it would be obvious to

supply heating gas at a temperature sufficient to reach the required preheating conditions in light of Zeller.

Applicants disagree with the Examiner. The temperatures supplied by Zeller and Villarreal-Trevino only appear to confuse the issue, as the temperatures are either indefinite, or high and outside the claimed range.

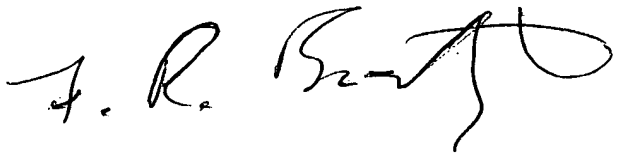
Claim 5 stands rejected. Applicants' claim 5 derives novelty through its dependency from claim 1.

Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Villarreal-Trevino et al., U.S. Patent 6,395,056 in view of Zeller et al., U.S. Patent 6,336,954 and Weedon et al. (June 2000). Examiner states that Weedon teaches that the solid lump feed material doesn't break up as much if it doesn't fall as far.

Applicants' reference to a ½ meter, in claim 8, is not a drop test, but the speed with which the temperature is increased. The furnace is loaded from the top, and temperatures increase as the material descends through the furnace (from 400° C to 750° C in ½ meter). See page 8, lines 19-21, of the specification. Weedon does not read on the temperature flux, and how a quick increase can reduce fines. Villarreal-Trevino teaches that material is 750° C to 1100° C going in. In view of the other arguments and the Amendment, claim 8 is believed to be in condition for allowance.

In view of the foregoing amendment and these remarks, this Application is now believed to be in condition for allowance and such favorable action is respectfully requested on behalf of Applicants.

Respectfully submitted,



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